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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/749,345	12/27/2000	Masato Shimakawa	450100-02918	5389

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FROMMER LAWRENCE & HAUG  
745 FIFTH AVENUE- 10TH FL.  
NEW YORK, NY 10151

EXAMINER

JACKSON, JAKIEDA R

ART UNIT PAPER NUMBER

2655

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/749,345

Applicant(s)

SHIMAKAWA ET AL.

Examiner

Jakieda R Jackson

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. In response to the Office Action mailed September 4, 2003, applicants submitted an Amendment filed on March 2, 2004, amends the Specification and claims 1, 10 and 11, arguing that this makes them distinguishable over the prior art cited.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1, 10 and 11, have been considered but are moot in view of the new ground(s) of rejection. Applicant amended the claims to add that the speech synthesizing apparatus comprises a text generating means for generating text in response to a behavior event.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-11** are rejected under 35 U.S.C. 103(a) unpatentable over Sadakuni (U.S Patent No. 6,446,056) in view of Holm et al. (U.S. Patent No. 6,260,016),

hereinafter referenced as Holm in further view of Tackett et al. (U.S. Patent No. 6,363,301), hereinafter referenced as Tackett.

Regarding **claim 1,10 and 11** Sadakuni discloses and interactive artificial intelligence comprising:

a behavior planning unit (Figure 1, element 7), which reads on the claimed "behavior-state changing means", responsive to a behavior event (column 8, lines 37-38 and 41-53), for changing a behavior state according to a behavior model (behavior modified by emotion; figure 3, element g and figure 12 with column 1, lines 40-43);

an emotion-generating unit (Figure 1, element 3), which reads on the claimed "emotion-state changing means" for changing an emotion according to the emotion model (figure 12); and

selecting means selecting control information according to at least one of the behavior state (attack; column 5, lines 21-25) but Sadakuni lacks synthesizing means for synthesizing a speech signal and a text generating means for generating text in response to said behavior event.

Holm discloses synthesizing means (figure 1) for synthesizing a speech signal (column 4, lines 8-23), to generate a pronunciation of the word.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sadakuni's invention such it discloses synthesizing means for synthesizing a speech signal, to generate synthesized speech, wherein the normally missing prosody information is supplied from the templates based on data extracted from human speech (column 8, lines 61-65), to provide more natural

sounding prosody through the use of prosody templates (column 1, lines 6-9) but Holm lacks a text generating means for generating text in response to said behavior event.

Tackett discloses a text generating means for generating text (column 20, lines 58-60) in response to said behavior event (user's language inappropriate, so user is kicked off the system by the robot; column 33, lines 8-12), to improve the robots behavior.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sadakuni and Holm with a text generating means for generating text in response to said behavior event, to allow the robot to learn from interaction with user and improve its own behavior, as taught by Tackett (column 2, lines 65-67).

Regarding **claim 2**, Sadakuni discloses an interactive artificial intelligence device but lacks including at least one of a segment-data ID, a syllable-set ID, a pitch parameter, a parameter of intensity of accent, a parameter of intensity of phrasify, and an utterance-speed parameter.

Holm discloses a speech synthesis system including at least one of a segment-data ID, a syllable-set ID (syllables enunciated), a pitch parameter (pitch rises and falls), a parameter of intensity of accent, a parameter of intensity of phrasify (intensity of syllables; column 2, lines 20-30), and an utterance-speed parameter (speech rate; column 8, line 49), to convey the reader's interpretation of the material.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sadakuni's invention such that it includes at

least one of a segment-data ID, a syllable-set ID, a pitch parameter, a parameter of intensity of accent, a parameter of intensity of phrasify, and an utterance-speed parameter, to insure a natural prosody, as taught by Holm (column 9, lines 11-16).

Regarding **claim 3**, Sadakuni discloses an interactive artificial intelligence with detecting means for detecting external conditions (Figure 3, step a and column 9, lines 10-19).

Regarding **claim 4**, Sadakuni's interactive artificial intelligence discloses holding means for holding individual information (column 6, line 32 and column 5, lines 31-43).

Regarding **claim 5**, Sadakuni's interactive artificial intelligence discloses counting means for counting elapsed time (column 4, lines 20-42)

Regarding **claim 6**, Sadakuni discloses an interactive artificial intelligence device comprising at least one of the number of accumulating means for accumulating the number of times the behavior and emotion state changes (column 2, 14-19 and lines 58-61).

Regarding **claim 7**, Sadakuni discloses an interactive artificial intelligence, but lacks comprising substituting means for substituting words included in the text.

Holm discloses substituting means for substituting words included in the text (substitute word; column 9, lines 7-11), to insure a natural prosody.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sadakuni's invention such that it discloses substituting means for substituting words included in the text, for providing more natural sounding prosody through the use of prosody templates.

Regarding **claim 8**, Sadakuni discloses an interactive artificial intelligence but lacks the converting means for converting the style of the text.

Holm discloses converting means for converting the style (prosody) of the text (column 1, lines 29-44).

Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sadakuni's speech synthesizing apparatus method and recording medium, for the purpose of supplying the system with requisite information concerning the number of syllables and stress patterns that fit the given emotion.

Regarding **claim 9**, Sadakuni an interactive artificial intelligence that is a robot (column 1, lines 48-51 and column 18, lines 6-7).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to speech apparatus's in general:

U.S. Patent Number 5,615,301 to Rivers discloses an automated language translation system.

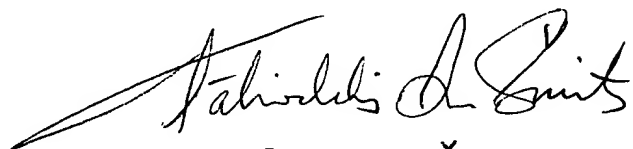
U.S. Patent Number 6,675,144 to Tucker et al. discloses audio coding systems and methods.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R Jackson whose telephone number is 703.305.5593. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis I. Smits can be reached on 703. 306-3011. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRJ  
May 17, 2004



TĀLIVALDIS IVARS ŠMITS  
PRIMARY EXAMINER